

It's almost the end of the baseball season, and only two teams still have a chance to win the penant- the Good Guys and the Bad Guys. Here are there records so far:

Team	Games Won	Games Lost	Games Left
Good Guys	96	59	7
Bad Guys	93	62	7

The two teams will not be playing each other for the rest of the season.

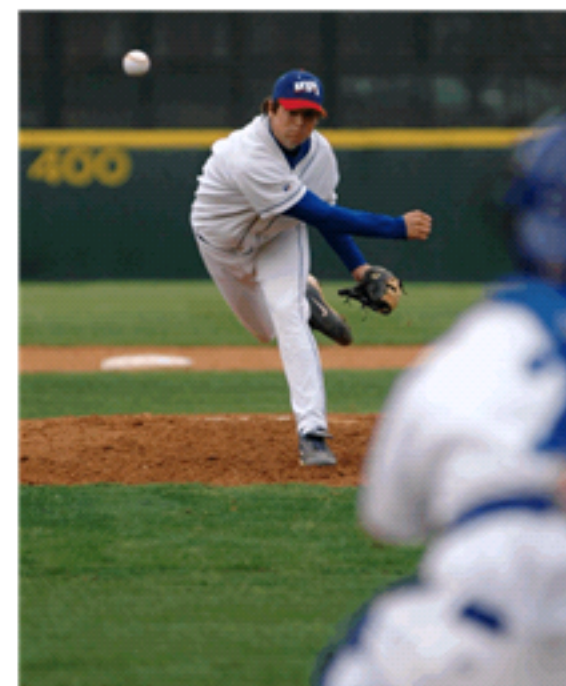
1. Talk with your group about some possibilities on how the season could end.

Here are some things to talk about:

- a. What is the best record the Good Guys could have at the end of the season? How about the Bad Guys?
- b. What is the worst record each could end up with?

2. Discuss with your group what you think is the most likely outcome for each of these two teams in their remaining seven games.

3. Discuss the Good Guys' probability of winning the pennant. Try at ocome to agreement on the likelihood that they will win.



Solutions:

Willie is one of the star hitters for the Good Guys. Every time he comes up to bat, he has one chance in three of getting a hit (This would be a batting average of .333)

1. Suppose Willie comes up to bat twice in a certain game.
 - a. What is the probability that he'll get a hit both times?
 - b. What is the probability that he won't get a hit either time?
 - c. What would be the probability of getting exactly one hit?
2. Now suppose that in another game, he comes up to bat three times.
 - a. What is the probability that he'll get a hit all three times?
 - b. What is the probability that he won't get any hits?
 - c. Use your answers to find the probability that the number of hits will be 1 or 2.

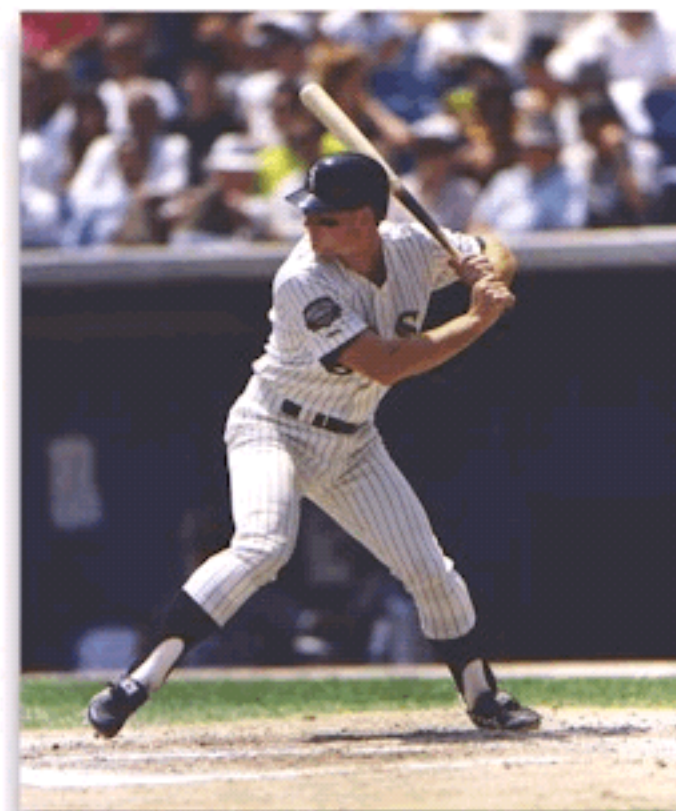


Solutions:

The Good Guys and the Bad Guys can each achieve many different records in their final games. For instance, they could both win the rest of their games, or one team could win the rest of its games while the other team loses the rest of its.

1. List the possible records that each could have for their final seven games.

Team	Games Won	Games Lost	Games Left
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Bad Guys	93	62	7



2. a. How many combinations of records are there for the two teams?

For instance, one combination is that the Good Guys win six games and lose one while the Bad Guys win three games and lose four.

b. Make a table showing all the possible combinations of records.

Indicate in your display which team ends up winning the pennant in each case.

Solutions:

Assume that the probability of the Good Guys winning any given game is .62 and the probability of the Bad Guys winning any given game is .6. Find

1. Find the probability that the Good Guys will win all seven of their remaining games. Justify your response.
2. Find the probability that the Bad Guys will win all seven of their remaining games.
3. What is the probability that both teams will finish the season this way? That is, find the probability that both the Good Guys and the Bad Guys will win all seven of their remaining games?



